

## **REMARKS**

Claims presented for prosecution in this Application are claims 1, 12-16 and 20-21, claims 2-11 and 17-19 being withdrawn in light of the outstanding restriction requirement. Claim 1 has been rejected over cited prior art. Claims 12-16 have been objected to as containing allowable subject matter, yet containing formalistic problems, while claims 20 and 21 have been allowed. In view of Applicants' remarks below, Applicants respectfully submit that claims 1, 12-16 and 20-21 are in condition for allowance. Accordingly, Applicants respectfully request that the present Response be considered and entered, the rejections to the claims be withdrawn, and that the case now be passed to issue.

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Applicants hereby affirm without traverse Applicants election of species I, claims 1, 12-16, 20 and 21 for further prosecution. Claims 2-11 and 17-19 being withdrawn by action of the present amendment.

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The drawings have been objected on formal grounds. In response, Applicants note the following:

- 1) Figure 3 has been amended to more precisely reflect the angle  $\alpha$ , as recited in the specification;
- 2) Cross hatching has been added to all drawings figures, as appropriate; and
- 3) New formal drawings are submitted herewith to replace the existing drawings currently on file.

In light of the above, Applicants respectfully request withdrawal of the objection to the drawings.

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The Examiner has objected to claims 1 and 20 on formalistic grounds. In response, Applicants have amended the claims 1 and 20 in accordance with the Examiner's helpful suggestion.

In light of the above, Applicants respectfully request withdrawal of the outstanding objection to the claims.

### **The 35 USC 112 Second Paragraph Rejection of Claims 1 and 12-15**

The Examiner has rejected claims 1 and 12-15 as being indefinite. In response, Applicants have amended claims 1 and 12 in order to address the Examiner's concern in this regard.

In particular, Applicants believe that the previous wording of claims 1 and 12 were easily understood by one of ordinary skill in the art, and did definitely recite the invention of the present application.

Merely in an attempt to advance prosecution, however, Applicants have amended claims 1 and 12 in light of the Examiner's helpful comments so as to remove any possible indefiniteness.

In light of the amendment to claims 1 and 12, Applicants respectfully request that the outstanding 35 USC 112 second paragraph rejection of claims 1 and 12-15 now be withdrawn.

### **The 35 USC 102(b) Rejection of Claim 1 over Van Huffel**

The Examiner has rejected claims 1 as being anticipated by Van Huffel. In response, Applicants respectfully assert that Van Huffel does not disclose, at least, each and every aspect of newly amended independent claim 1.

Independent claim 1 now explicitly recites:

*"A seam for ductwork, said seam having a male end portion integrally formed with said ductwork, said seam comprising:*

*a female end portion integrally formed with said ductwork;*

*wherein said female end portion includes a first fold and a second fold, said first and second folds defining thereby a female groove for accommodating said male end portion therein;*

*wherein a distal end of said second fold is bent transverse to said female groove prior to said male end portion being inserted into said female groove; and*

*wherein said female groove lies adjacent an outer surface of said ductwork"* (emphasis added).

Claim 1 now explicitly recites that the female groove of the ductwork lies adjacent to the outer surface of the ductwork. In stark contrast, it will be readily seen from Figures 5-8 of Van Huffel that Van Huffel's female groove is formed to extend in a direction so as to lie adjacent the interior surface of the tube.

Applicants respectfully submit that this distinction is important, and non-obvious, for a number of reasons. Foremost of these is that by forming the female groove (in which the male end portion is fixed) to lie adjacent the *outer* surface of the ductwork, the present invention avoids the creation of a structural protuberance that extends into the air passageway of the ductwork. That is, Applicants' invention advantageously orients the duct seam on the *outside* of the ductwork so as to ensure that the seam does not interfere with the flow of air through the duct, nor will Applicants' duct seam create any air turbulence that may cause undesirable noise in the overall system during operation.

In contrast, Van Huffel's seam extends inwards, towards the air passageway of the tube, thus impeding air flow and advancing the creation of noise and the like during operation.

Moreover, there is no teaching or suggestion within Van Huffel to motivate one of ordinary skill in the art to modify Van Huffel's seam formation in the manner proposed by the present invention.

Indeed, Applicants respectfully submit that Van Huffel actually teaches away from any such interpretation. Column 1, lines 26-29 explicitly recite an Huffel's objective to make the *outer* (not inner) surface of the tube *flush*, stating:

"A further object is to provide a double walled tube of sheet metal the meeting edges of the two walls being **flush**, and lapped **and infolded** to form a double seamed joint" (emphasis added).

Moreover, column 2, lines 17-42 also recite that, *inter alia*:

"a final operation consist in applying an **outward pressure** to the lapped **and infolded** edges ..." (emphasis added).

Applicants respectfully submit that Van Huffel's own disclosure explicitly demands that the seam be formed inside the tube, and that the outer surface of the tube be flush, in direction contradiction to Applicants invention and the recitation of claim 1.

As Van Huffel does not disclose or suggest each and every aspect of independent claim 1, Applicants respectfully request withdrawal of the outstanding 35 USC 102(b) rejection of claim 1 on this basis alone.

Applicants earnestly believe that independent claim 1, at least, clearly defines over Van Huffel, however, should the Examiner believe that there remains any outstanding issues, Applicants respectfully request that the Examiner contact Applicants' Representative so as to expedite resolution of these outstanding issues without the necessity of another Office Action.

## CONCLUSION

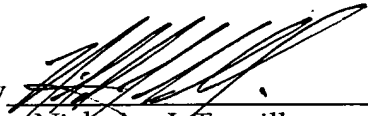
In view of the remarks above, it is respectfully submitted that claims 1, 12-16 and 20-21 are allowable, and an early action to that effect is earnestly solicited.

The Examiner is invited to contact the undersigned at the number below to expedite resolution of any issues that the Examiner may consider to remain unresolved. In particular, should a Notice of Allowance not be forthcoming, the Examiner is requested to phone the undersigned for a telephonic interview, an Examiner's amendment, or the like, while the outstanding issues are fresh in the mind of the Examiner.

It is believed that no additional fees or deficiencies in fees are owed. However, authorization is hereby given to charge our Deposit Account No.13-0235 in the event any additional fees are owed.

Respectfully submitted,

By

  
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**Amendment to the Drawings**

Please replace the existing informal drawings with the attached formal drawings Figures 1-10.





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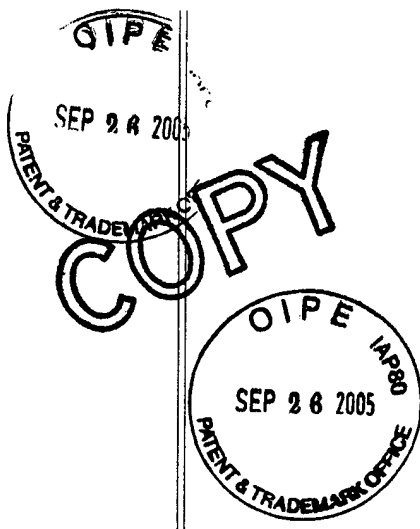
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of )  
JOHN J. TOBEN, ET AL. ) Examiner: Garcia, Ernesto  
on DUCT FASTSEAM ) Group Art Unit: 3679  
Serial No.: 10/688,734 )  
Filed on: September 23, 2003 ) (Our Docket No. 6006-0141-1)  
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AMENDMENT AND RESPONSE TO OFFICE ACTION

SIR:

In response to the Office Action mailed April 26, 2005, the time for response extending to July 26, 2005, Applicants respectfully request reconsideration of the existing rejection in view of Applicants' amendments and remarks below.

**Amendment to the Drawings**

Please replace the existing informal drawings with the attached formal drawings Figures 1-10.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A seam for ductwork, said seam having a male end portion integrally ~~formed at a distal end of a duct wall~~ formed with said ductwork, said seam comprising:

a female end portion integrally formed ~~at another distal end of said duct wall~~ with said ductwork;

wherein said female end portion includes a first fold and a second fold, said first and second folds defining thereby a female groove for accommodating said male end portion therein; ~~and~~

wherein a distal end of said second fold is bent transverse to said female groove prior to said male end portion being inserted into said female groove; and

wherein said female groove lies adjacent an outer surface of said ductwork.

2. (withdrawn) The seam for ductwork according to claim 1, wherein:

said distal end of said second fold is bent away from said female groove.

3. (withdrawn) The seam for ductwork according to claim 2, wherein:

said first fold extends from an inwardly formed hemmed ridge, said inwardly formed hemmed ridge being substantially perpendicular to said duct wall.

4. (withdrawn) The seam for ductwork according to claim 1, wherein:

said first fold and said second fold define a sealing angle of approximately 5 to 45 degrees therebetween.

5. (withdrawn) The seam for ductwork according to claim 1, wherein:  
said first fold and said second fold define a sealing angle of approximately 20 degrees therebetween.
6. (withdrawn) A seam for ductwork having a male end portion integrally formed at a distal end of a duct wall, said seam comprising:  
a female end portion integrally formed at another distal end of said duct wall;  
and  
wherein said female end portion includes a first fold which is bent to extend in a first direction substantially parallel to said duct wall, a second fold which is bent at an open angle and extends in a second direction to define a female groove for accommodating said male end portion therein, and a sealing fold integrally formed at a distal end of said second fold, said sealing fold being bent at a sealing angle to said second fold prior to said male portion being inserted into said female groove.
7. (withdrawn) The seam for ductwork according to claim 6, wherein:  
said second direction is substantially opposite to said first direction.
8. (withdrawn) The seam for ductwork according to claim 6, wherein:  
said open angle is between 10 to 30 degrees.
9. (withdrawn) The seam for ductwork according to claim 6, wherein:  
said open angle is approximately 20 degrees.
10. (withdrawn) The seam for ductwork according to claim 6, wherein:  
said sealing fold is bent towards said duct wall.
11. (withdrawn) The seam for ductwork according to claim 6, wherein:  
said sealing angle is between 45 to 60 degrees.

12. (currently amended) A seam for ductwork, said seam having a male end portion integrally formed ~~at a distal end of a duct wall~~ with said ductwork, said seam comprising:

a female end portion integrally formed ~~at another distal end of said duct wall~~ with said ductwork; and

wherein said female end portion includes a first fold which is bent at a break point of said duct wall to extend at a hemmed angle towards an interior of said ductwork, a second fold which is bent back upon said first fold and extends substantially adjacent to said break point, a third fold beginning substantially adjacent to said break point and extending substantially parallel to said duct wall, and a fourth fold which is bent back against said third fold to define a female groove for accommodating said male end portion therein.

13. (original) A seam for ductwork according to claim 12, said seam further comprising:

a sealing fold integrally formed at a distal end of said fourth fold, said sealing fold being bent at a sealing angle to said fourth fold prior to said male portion being inserted into said female groove.

14. (original) The seam for ductwork according to claim 12, wherein:

said hemmed angle is between 10 to 60 degrees.

15. (original) The seam for ductwork according to claim 12, wherein:

said hemmed angle is approximately 30 degrees.

16. (original) The seam for ductwork according to claim 12, wherein:

said sealing angle is between 45 to 60 degrees.

17. (withdrawn) A seam for ductwork having a male end portion integrally formed at a distal end of a duct wall, said seam comprising:

a female end portion integrally formed at another distal end of said duct wall;  
and

wherein said female end portion includes a first fold bent to extend inwardly and substantially perpendicular to said duct wall, a second fold bent to extend in a direction substantially parallel to said duct wall, a third fold bent back upon said second fold, and a fourth fold bent at an open angle from said third fold and defining thereby a female groove for accommodating said male portion therein.

18. (withdrawn) The seam for ductwork according to claim 17, further comprising:

a distal end of said fourth fold bent transverse to said female groove prior to said male portion being inserted into said female groove.

19. (withdrawn) The seam for ductwork according to claim 18, wherein:

said open angle is between 10 to 60 degrees.

20. (currently amended) A method for forming a seam for ductwork having a male end portion integrally formed at a distal end of a duct wall, said method comprising the steps of:

integrally forming a female end portion at another distal end of said duct wall;  
and

~~wherein~~ integrally forming said female end portion includes bending a first fold beginning at a break point of said duct wall to extend at a hemmed angle towards an interior of said ductwork, bending a second fold back upon said first fold to extend substantially adjacent to said break point, bending a third fold beginning substantially adjacent said break point and extending substantially parallel to said duct wall, and bending a fourth fold back against said third fold to define a female groove for accommodating said male end portion therein.

21. (original) The method for forming a seam for ductwork according to claim 20, said method further comprising the steps of:

integrally forming a sealing fold at a distal end of said fourth fold; and  
bending said sealing fold to be transverse to said female groove prior to said male portion being inserted into said female groove.

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